

Docket No.: 60617.301501

Patent

**REMARKS**

The Examiner is thanked for the comments in the Action. They have helped us considerably in understanding the Action and in drafting this Response thereto. It is our understanding that claims 1-34 remain pending in this application.

**Informalities:**

The Action states "*Specification, paragraph [0013], line 1, 'FIG. 4a-b' should be changed to 'FIG. 4a-c'.*" Appropriate amendment is provided herein.

Additionally, in the course of drafting this Response we observed that paragraph [0020] contained a clearly wrong acronym. Appropriate amendment is also provided herein.

No new subject matter is added by these amendments.

**Rejections of the claims per § 103(a):**

Claims 1-34 are rejected as being unpatentable (obvious) over Ellerbrock. Responsive hereto, we have amended the claims to more specifically recite the present invention. We respectfully urge that this distinguishes over Ellerbrock.

Ellerbrock presents a prior art scheme ("Ellerbrock's prior art scheme") and it teaches an inventive scheme ("Ellerbrock's inventive scheme"). Ellerbrock's prior art scheme (FIG. 1) includes a plurality (equaling its sensors) of broad band light sources (BBL1, BBL2), a same plurality of tunable filters (TF1, TF2), a waveform generator (WG), a same plurality of peak detectors (PD1, PD2), digital processing electronics (A/D and DSP). Briefly, the waveform generator here scans the tunable filters across a broad band spectrum so the peak detectors can detect the peaks in narrow band outputs from the tunable filters. The peak detectors then each generate digital pulses used to trigger the digital processing electronics. The signal of the waveform generator is also needed by the digital processing electronics. See e.g., col. 1, ln. 30-49 and especially ln. 50-65.

In contrast, Ellerbrock's inventive scheme (FIG. 2 and 3) relies on a single light source, a plurality (equaling its sensors) of detectors (220, 334 & 336), and digital processing electronics (A/D and DSP). In Fig. 2 the light source includes a tunable narrow band light source (204) and a signal generator (206), and in FIG. 3 the light source includes an LED & driver (314), a tunable narrow band spectrometer (302; e.g., a tunable etalon), an etalon controller (304), and a

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waveform generator (306). Briefly, by use of either of its tunable narrow band light sources, this scheme eliminates the need for the unable filters of the other. Instead, the light reflected by the sensors here is already narrow band and is being tunably controlled at the light source.

Otherwise, both of the schemes in Ellerbrock proceed much the same. The plurality of detectors (220 or 334 & 336) each generate digital pulses used to trigger the digital processing electronics (which also requires the signal from the signal or waveform generator being used).

Turning now to how the presently claimed invention differs from both of these schemes, Applicant's light source uses a single wideband type light source, it employs fixed wavelength type filters, it uses photodetectors (producing analog detector signals), and it does not use a signal/waveform generator or a "scanning" principle of operation for either light sourcing or light detection. As such, the claimed invention uses few elements that either of the Ellerbrock schemes, and many of the elements which it does use are simpler than the elements used by the Ellerbrock schemes. All of these result in embodiments of Applicant's invention being cheaper, smaller, less failure prone, etc. than systems based on the Ellerbrock schemes.

With regard to the points stated in the Action in support of the rejections, we note for the record that do not agree with a number of these, but we urge that those have been effectively addressed by the above remarks, or are now moot in view of the amendments.

### CONCLUSION

Applicant has endeavored to put this case into complete condition for allowance. It is thought that the objection has been corrected by amendment, and that the §103 rejection has also been addressed by amendment or completely rebutted. Applicant therefore asks that all objections and rejections now be withdrawn and that allowance of all claims presently in the case be granted.

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Respectfully Submitted,



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